

## STATE WEATHER SERVICES.

[Temperature in degrees Fahrenheit; precipitation, including melted snow, in inches and hundredths.]

The following extracts and summaries are republished from reports for December, 1893, of the directors of the various state weather services:

**ALABAMA.**

*Temperature.*—The mean was 3.4 above the normal; maximum, 86, at Geneva, 26th; minimum, 14, at Chepultepec, 5th.

*Precipitation.*—Greatest monthly, 5.80, at Greensboro; least monthly, 1.12, at Sturdevant.

*Wind.*—Prevailing direction, north.—*F. P. Chaffee, Local Forecast Official, Weather Bureau, Montgomery, director.*

**ARIZONA.**

*Temperature.*—The mean was 4.0 above the normal; maximum, 85, at Buckeye, 17th; minimum, —3, at Flagstaff, 31st; greatest monthly range, 68, at Whipple Barracks; least monthly range, 35, at Red Rock.

*Precipitation.*—The average was 1.20 below the normal; greatest monthly, 1.80, at Flagstaff; least monthly, 0.00, at Red Rock.

*Wind.*—Prevailing directions, west and southwest.—*W. Burrows, Observer, Weather Bureau, Tucson, director.*

**ARKANSAS.**

*Temperature.*—The mean was 0.2 below the normal; maximum, 79, at Bee Branch, 25th; minimum, 3, at Rogers, 4th; greatest monthly range, 65, at Bee Branch and Rogers; least monthly range, 46, at Mount Nebo.

*Precipitation.*—The average was 2.51 below the normal; greatest monthly, 3.27, at Stuttgart; least monthly, 0.65, at Texarkana.

*Wind.*—Prevailing direction, south.—*F. H. Clarke, Local Forecast Official, Weather Bureau, Little Rock, director; G. G. Harkness, Observer, Weather Bureau, assistant.*

**CALIFORNIA.**

*Temperature.*—The mean was 3.1 below the normal; maximum, 94, at Downey, 2d; minimum, zero, at Boca and Truckee, 30th; greatest monthly range, 61, at Tehachapi; least monthly range, 20, at Sutter Creek.

*Precipitation.*—The average was 2.82 above the normal; greatest monthly, 10.81, at Crescent City L. H.; least monthly, trace, at Indio and Salton.

*Wind.*—Prevailing direction, south.—*J. A. Barwick, Observer, Weather Bureau, Sacramento, director.*

**COLORADO.**

*Temperature.*—The mean was 1.0 above the normal; maximum, 73, at Akron, 17th, and at Minneapolis, 14th; minimum, —18, at Gunnison, 28th, and at Pikes Peak, 30th.

*Precipitation.*—The average was 0.10 above the normal; greatest monthly, 8.51, at Breckenridge; least monthly, 0.00, at Garnet.

*Wind.*—Prevailing direction, west.—*J. J. Gilligan, Observer, Weather Bureau, Denver, director.*

**FLORIDA.**

*Temperature.*—The mean was 1.5 above the normal; maximum, 85, at Kissimmee, 12th; minimum, 26, at Pensacola, 5th; greatest monthly range, 55, at Plant City; least monthly range, 26, at Key West.

*Precipitation.*—The average was 0.07 above the normal; greatest monthly, 6.96, at Lake City; least monthly, 1.18, at Key West.

*Wind.*—Prevailing direction, northeast.—*E. R. Demain, Observer, Weather Bureau, Jacksonville, director.*

**GEORGIA.**

*Temperature.*—Maximum, 80, at Darien, 25th; minimum, 16, at Camilla, 18th; greatest monthly range, 55, at Elberton and Millen; least monthly range, 35, at Darien.

*Precipitation.*—Greatest monthly, 7.08, at Poulan; least monthly, 0.75, at Columbus.

*Wind.*—Prevailing direction, northwest.—*Park Morrill, Local Forecast Official, Weather Bureau, Atlanta, director.*

**IDAHO.**

*Temperature.*—Maximum, 60, at Payette, 10th; minimum, —13, at Fort Lemhi, 27th; greatest monthly range, 59, at Fort Lemhi; least monthly range, 33, at Grangeville.

*Precipitation.*—Greatest monthly, 5.69, at Murray; least monthly, 0.25, at Oakley.

*Wind.*—Prevailing direction, south.—*J. H. Smith, Observer, Weather Bureau, Idaho Falls, director.*

**ILLINOIS.**

*Temperature.*—The mean was 1.1 above the normal; maximum, 74, at Muddy Valley, 25th; minimum, —14, at Oswego, 4th, and at Winnebago, 13th.

*Precipitation.*—The average was 0.89 below the normal; greatest monthly, 2.60, at Aurora; least monthly, 0.25, at Warsaw.

*Wind.*—Prevailing direction, northwest.—*John Craig, Observer, Weather Bureau, Springfield, director.*

**INDIANA.**

*Temperature.*—The mean was 0.8 above the normal; maximum, 75, at Bedford, 26th; minimum, —11, at Lafayette, 4th; greatest monthly range, 74, at Lafayette; least monthly range, 49, at Laconia.

*Precipitation.*—The average was 0.44 below the normal; greatest monthly, 4.35, at Muncie; least monthly, 1.34, at Logansport.

*Wind.*—Prevailing direction, southwest.—*Prof. H. A. Huston, Lafayette,*

*director; C. F. R. Wappenhans, Local Forecast Official, Weather Bureau, assistant.*

**IOWA WEATHER AND CROP SERVICE.**

*Temperature.*—The mean was 1.5 below the normal; maximum, 70, at Centerville, 2d; minimum, —21, at Sibley, 1st; greatest monthly range, 77, at Centerville; least monthly range, 56, at Storm Lake.

*Precipitation.*—The average was 0.34 below the normal; greatest monthly, 2.80, at Centerville; least monthly, 0.46, at Villisca.—*J. R. Sage, Des Moines, director; G. M. Chappel, Local Forecast Official, Weather Bureau, assistant.*

**KANSAS.**

*Temperature.*—The mean was 2.8 above the normal; maximum, 75, at Englewood, 15th, and at Kiowa, 22d; minimum, —1, at Colby, 1st; greatest monthly range, 71, at Hays City; least monthly range, 58, at Sterling.

*Precipitation.*—The average was 0.49 below the normal; greatest monthly, 1.33, at Horton; least monthly, trace, at Emporia and Garden City.

*Wind.*—Prevailing direction, south.—*T. B. Jennings, Observer, Weather Bureau, Topeka, director.*

**KENTUCKY.**

*Temperature.*—The mean was 0.7 above the normal; maximum, 78, at Paducah, 25th; minimum, 10, at Eubanks, 18th; greatest monthly range, 65, at Paducah and Princeton; least monthly range, 37, at South Fork.

*Precipitation.*—The average was 1.28 below the normal; greatest monthly, 3.47, at Greensburg; least monthly, 1.04, at Alpha.

*Wind.*—Prevailing direction, southwest.—*Frank Burke, Local Forecast Official, Weather Bureau, Louisville, director.*

**LOUISIANA.**

*Temperature.*—The mean was 0.6 above the normal; maximum, 88, at Abbeville, 1st; minimum, 20, at Oxford, 4th; greatest monthly range, 62, at Oxford; least monthly range, 38, at Port Eads.

*Precipitation.*—The average was 1.68 below the normal; greatest monthly, 6.84, at Opelousas; least monthly, 0.06, at Houma.

*Wind.*—Prevailing direction, north.—*R. E. Kerkam, Local Forecast Official, Weather Bureau, New Orleans, director.*

**MARYLAND.**

*Temperature.*—The mean was 1.1 above the normal; maximum, 68, at Charlotte Hall, 1st, at Upper Marlboro, 24th, and at Millsboro, Del., 3d; minimum, 5, at Charlotte Hall, 14th; greatest monthly range, 63, at Charlotte Hall; least monthly range, 41, at New Market.

*Precipitation.*—The average was 0.63 below the normal; greatest monthly, 4.05, at Cambridge; least monthly, 0.55, at New Market.

*Wind.*—Prevailing direction, southwest.—*Dr. William B. Clark, Johns Hopkins University, Baltimore, director; Prof. Milton Whitney, Maryland Agricultural College, secretary and treasurer; C. P. Cronk, Observer, Weather Bureau, in charge.*

**MICHIGAN.**

*Temperature.*—The mean was 4.8 below the normal; maximum, 64, at Climax and Mottville, 24th; minimum, —14, at Lathrop, 4th, and at Sault Ste. Marie, 30th; greatest monthly range, 71, at Adrian and Flint; least monthly range, 36, at Lake City.

*Precipitation.*—The average was 1.13 above the normal; greatest monthly, 6.95, at Grand Rapids; least monthly, 2.07, at Fairview.

*Wind.*—Prevailing direction, southwest.—*E. A. Evans, Local Forecast Official, Weather Bureau, Detroit, director.*

**MINNESOTA.**

*Temperature.*—The mean was 4.6 below the normal; maximum, 55, at Bingham Lake, 21st; minimum, —40, at Pokegama Falls, 13th and 30th, and at Pine River Dam, 18th; greatest monthly range, 80, at Red Lake; least monthly range, 53, at Crookston.

*Precipitation.*—The average was 0.52 above the normal; greatest monthly, 4.08, at Wabasha; least monthly, 0.30, at Saint Vincent.

*Wind.*—Prevailing direction, northwest.—*E. A. Beals, Observer, Weather Bureau, Minneapolis, director.*

**MISSISSIPPI.**

*Temperature.*—The mean was 3.0 above the normal; maximum, 79, at Port Gibson, 12th; minimum, 18, at Louisville, 5th; greatest monthly range, 58, at Vaiden; least monthly range, 42, at Biloxi.

*Precipitation.*—The average was 0.93 below the normal; greatest monthly, 7.21, at Meridian; least monthly, 1.54, at Biloxi.

*Wind.*—Prevailing directions, north and south.—*R. J. Hyatt, Local Forecast Official, Weather Bureau, Vicksburg, director.*

**MISSOURI.**

*Temperature.*—The mean was 1.5 above the normal; maximum, 76, at Grovedale, 23d; minimum, —7, at Unionville, 11th; greatest monthly range, 81, at Grovedale; least monthly range, 48, at Gayosa.

*Precipitation.*—The average was 1.22 below the normal; greatest monthly, 3.85, at Brunswick; least monthly, 0.10, at Lamonte and New Palestine.

*Wind.*—Prevailing direction, southwest.—*J. R. Rippey, Secretary, State*

*Board of Agriculture, Columbia, director; E. H. Nimmo, Observer, Weather Bureau, assistant.*

#### MONTANA.

*Temperature.*—The mean was 5.5 above the normal; maximum, 59, at Missoula, 4th; minimum, —33, at Missoula, 12th; greatest monthly range, 92, at Missoula; least monthly range, 88, at Cokedale.

*Precipitation.*—The average was 0.17 below the normal; greatest monthly, 4.09, at Cokedale; least monthly, trace, at Missoula.

*Wind.*—Prevailing direction, southwest.—*J. M. Sherier, Observer, Weather Bureau, Helena, director.*

#### NEBRASKA.

*Temperature.*—The mean was 1.5 above the normal; maximum, 71, at Lexington, 23d; minimum, —16, at Valentine, 1st; greatest monthly range, 76, at Valentine; least monthly range, 32, at Haigler.

*Precipitation.*—The average was 0.15 above the normal; greatest monthly, 2.35, at Hartington; least monthly, trace, at Haigler.

*Wind.*—Prevailing direction, northwest.—*George E. Hunt, Local Forecast Official, Weather Bureau, Omaha, director.*

#### NEVADA.

*Temperature.*—The mean was 1.4 above the normal; maximum, 72, at Belleville, 3d; minimum, —15, at Empire Ranch, 26th; greatest monthly range, 80, at Sunnyside; least monthly range, 40, at Virginia City.

*Precipitation.*—The average was 1.19 below the normal; greatest monthly, 2.33, at Stofel; least monthly, 0.00, at Hot Springs.

*Wind.*—Prevailing direction, southwest.—*Prof. Charles W. Friend, Carson City, director; F. A. Carpenter, Observer, Weather Bureau, assistant.*

#### NEW ENGLAND.

*Temperature.*—The mean was 2.3 below the normal; maximum, 62, at Providence (b), 4th; minimum, —36, at Fairfield, 14th; greatest monthly range, 85, at Woodstock; least monthly range, 46, at Newport.

*Precipitation.*—The average was 1.13 above the normal; greatest monthly, 7.73, at Calais; least monthly, 2.30, at Stevenson.

*Wind.*—Prevailing direction, northwest.—*J. Warren Smith, Weather Bureau, Boston, director.*

#### NEW JERSEY.

*Temperature.*—The mean was 2.4 above the normal; maximum, 70, at Lancelwood, 25th; minimum, 5, at Chester, Newton, and Woodbine, 14th, at Somerville, 6th and 14th, and at Belvidere, 8th; greatest monthly range, 62, at Toms River and Lancelwood; least monthly range, 41, at Ocean City.

*Precipitation.*—The average was 0.23 below the normal; greatest monthly, 4.66, at Tenafly; least monthly, 1.67, at Blairstown.

*Wind.*—Prevailing direction, northwest.—*E. W. McGann, Observer, Weather Bureau, New Brunswick, director.*

#### NEW YORK.

*Temperature.*—The mean was 1.0 above the normal; maximum, 65, at Plattsburg Barracks, 23d and 24th; minimum, —31, at Saranac Lake, 13th; greatest monthly range, 88, at Plattsburg Barracks; least monthly range, 46, at Fort Niagara.

*Precipitation.*—The average was 0.98 above the normal; greatest monthly, 6.93, at Turin; least monthly, 1.36, at Fleming.

*Wind.*—Prevailing direction, southwest.—*Prof. E. A. Fuertes, Dean of the College of Civil Engineering, Cornell University, Ithaca, director; R. M. Hardinge, Observer, Weather Bureau, assistant.*

#### NORTH CAROLINA.

*Temperature.*—The mean was 1.4 above the normal; maximum, 76, at Tarboro, 3d; minimum, 10, at Bakersville, 5th; greatest monthly range, 60, at Bakersville and Soapstone Mount; least monthly range, 36, at Hatteras and Salisbury.

*Precipitation.*—The average was 0.85 above the normal; greatest monthly, 5.88, at Washington; least monthly, 0.79, at Mocksville.

*Wind.*—Prevailing direction, northwest.—*Dr. Herbert B. Battle, Raleigh, director; C. F. von Herrmann, Observer, Weather Bureau, assistant.*

#### NORTH DAKOTA.

*Temperature.*—The mean was 5.5 below the normal; maximum, 55, at Fort Berthold, 4th; minimum, —36, at Portal, 12th, and at Woodbridge, 10th; greatest monthly range, 87, at Fort Berthold; least monthly range, 61, at Jamestown.

*Precipitation.*—The average was 0.13 above the normal; greatest monthly, 1.92, at Williston; least monthly, 0.04, at Bottineau.

*Wind.*—Prevailing direction, southwest.—*B. H. Bronson, Observer, Weather Bureau, Bismarck, director.*

#### OHIO WEATHER AND CROP SERVICE.

*Temperature.*—The mean was 0.2 above the normal; maximum, 72, at Portsmouth, 24th; minimum, —5, at Wauseon, 2d; greatest monthly range, 71, at Wauseon; least monthly range, 46, at Demos.

*Precipitation.*—The average was 0.13 above the normal; greatest monthly, 5.85, at Wheeler; least monthly, 0.99, at Ripley.

*Wind.*—Prevailing direction, southwest.—*L. N. Bonham, Columbus, director; C. M. Strong, Observer, Weather Bureau, assistant.*

#### OKLAHOMA.

*Temperature.*—The mean was 4.0 above the normal; maximum, 80, at Mangum, 11th; minimum, 7, at Keokuk Falls, 4th.

*Precipitation.*—The average was 1.67 below the normal; greatest monthly, 2.77, at Fort Sill; least monthly, 0.50, at Gwendale.

*Wind.*—Prevailing direction, south.—*J. I. Widmeyer, Observer, Weather Bureau, Oklahoma City, director.*

#### PENNSYLVANIA.

*Temperature.*—The mean was 0.7 below the normal; maximum, 70, at Easton, 24th; minimum, —7, at Dyberry, 14th; greatest monthly range, 65, at Drifton; least monthly range, 41, at Chambersburg.

*Precipitation.*—The average was 0.12 below the normal; greatest monthly, 6.07, at Smethport; least monthly, 1.41, at Bloomsburg.

*Wind.*—Prevailing direction, west.—*Under direction of the Franklin Institute, Philadelphia: W. P. Tatham, director; T. F. Townsend, Local Forecast Official, Weather Bureau, assistant.*

#### SOUTH CAROLINA.

*Temperature.*—Maximum, 79, at Trial, 3d; minimum, 17, at Hollands Store, 21st.

*Precipitation.*—Greatest monthly, 4.67, at Georgetown; least monthly, 1.31, at Hollands Store.

*Wind.*—Prevailing direction, northwest.—*J. W. Bauer, Observer, Weather Bureau, Columbia, director.*

#### SOUTH DAKOTA.

*Temperature.*—The mean was 4.5 below the normal; maximum, 61, at Rapid City, 21st; minimum, —31, at Webster, 1st; greatest monthly range, 88, at Aberdeen; least monthly range, 50, at Oelrichs.

*Precipitation.*—The average was 0.39 above the normal; greatest monthly, 2.29, at Sioux Falls; least monthly, 0.10, at Vermillion.

*Wind.*—Prevailing direction, northwest.—*S. W. Glenn, Local Forecast Official, Weather Bureau, Huron, director.*

#### TENNESSEE WEATHER AND CROP SERVICE.

*Temperature.*—The mean was 0.4 below the normal; maximum, 73, at Memphis, 24th, and at Clarksville, 25th; minimum, 13, at Andersonville, 5th; greatest monthly range, 59, at Clarksville; least monthly range, 33, at Florence Station.

*Precipitation.*—The average was 0.68 below the normal; greatest monthly, 4.43, at Riddleton; least monthly, 2.03, at Rogersville.

*Wind.*—Prevailing direction, south.—*J. B. Marbury, Local Forecast Official, Weather Bureau, Nashville, director.*

#### TEXAS.

*Temperature.*—The mean was 2.7 above the normal; maximum, 89, at Fort Ringgold, 16th; minimum, 4, at Fort Hancock, 30th; greatest monthly range, 72, at Fort Hancock; least monthly range, 28, at Haskell.

*Precipitation.*—The average was 1.28 below the normal; greatest monthly, 3.02, at Orange; least monthly, 0.00, at Fort McIntosh, Haskell, and Kyle.

*Wind.*—Prevailing direction, south.—*D. D. Bryan, Galveston, director; I. M. Cline, Local Forecast Official, Weather Bureau, assistant.*

#### UTAH.

*Temperature.*—Maximum, 70, at Saint George, 9th; minimum, —19, at Scofield, 31st; greatest monthly range, 75, at Scofield; least monthly range, 39, at Salt Lake City.

*Precipitation.*—Greatest monthly, 3.95, at Heber; least monthly, 0.30, at Loa.

*Wind.*—Prevailing direction, southwest.—*G. N. Salisbury, Observer, Weather Bureau, Salt Lake City, director.*

#### VIRGINIA.

*Temperature.*—Maximum, 83, at Avon, 24th; minimum, 7, at Fredericksburg, 6th; greatest monthly range, 71, at Avon; least monthly range, 42, at Cape Charles and Hampton.

*Precipitation.*—Greatest monthly, 4.80, at Birdsnest; least monthly, 0.54, at Dale Enterprise.

*Wind.*—Prevailing direction, southwest.—*Dr. E. A. Craighill, Lynchburg, director; J. N. Ryker, Observer, Weather Bureau, assistant.*

#### WEST VIRGINIA.

*Temperature.*—Maximum, 76, at Burlington, 25th; minimum, 7, at Marlinton, 21st; greatest monthly range, 66, at Burlington; least monthly range, 43, at Wheeling.

*Precipitation.*—Greatest monthly, 3.73, at Beverly; least monthly, 0.32, at Harpers Ferry.

*Wind.*—Prevailing direction, west.—*W. W. Dent, Observer, Weather Bureau, Parkersburg, director.*

#### WISCONSIN.

*Temperature.*—The mean was 6.0 below the normal; maximum, 58, at Beloit and Sharon, 24th; minimum, —35, at Hayward and Osceola, 13th; greatest monthly range, 82, at Black River Falls; least monthly range, 56, at Weston and Manitowoc.

*Precipitation.*—The average was 1.00 below the normal; greatest monthly, 5.10, at Eau Claire; least monthly, 0.84, at Delavan.

*Wind.*—Prevailing direction, northwest.—*W. L. Moore, Local Forecast Official, Weather Bureau, Milwaukee, director.*

#### WYOMING.

*Temperature.*—Maximum, 65, at Wheatland, 10th; minimum, —16, at Sheridan, 12th; greatest monthly range, 70, at Sheridan; least monthly range, 38, at Fort Yellowstone.

*Precipitation.*—Greatest monthly, 1.91, at Fort Yellowstone; least monthly, 0.10, at Laramie.

*Wind.*—Prevailing direction, northwest.—*E. M. Ravenscraft, Observer, Weather Bureau, Cheyenne, director.*